

Work Order ID 144901

April 27, 2016 12:35:20 PM

144901

Page 1

Item ID: D350-636-016

Accept

Revision ID:

N9000040100

Setup Start

NS1

Item Name: Skidtube RH, Run-on Landing Wearplates, DART(Apical) Cylind./Aerazur Float Comp.

Stop

NS2

Start Date: 5/11/2016 Start Qty: 1.00

1

Cust Item ID:

Required Date: 5/25/2016 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan: 800 318

Date: 11/04/07

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

D4168-042

B

DAS

DAS

21 16-08-22

100

Document Control
DOCUMENT CONTROL

9-89 AUG 22 2016

100

DC

Doc.Control -USB or Paperwork

Memo

record fwd angle:

89.8°

0.00

Photocopy blue file and type labels per PPP D350-636-016 CHG 005

DAS
2027
9-89

AUG 24 2016

16-5-31

DAS
19
9-89

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only ☐

QA Closed: _____

Date: _____

Work Order: _____ Part No.: _____ NCR No.: _____ Date: _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐ Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐		AGAINST DEPARTMENT/PROCESS MRB (QS1042) Approval																																																																							
Step #: _____		QTY Effective: _____																																																																									
Description Work Order Deviation		Disposition																																																																									
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Work Order ID 144901

April 27, 2016 12:35:20 PM

144.901

Item ID: D350-636-016 Accept *N.9000040100* Setup Start *NS1*

Revision ID: Skidtube RH, Run-on Landing Wearplates, DART(Apical) Cylind./Aerazur Float Comp.

Item Name: Skidtube RH, Run-on Landing Wearplates, DART(Apical) Cylind./Aerazur Float Comp. Stop *NS2*

Start Date: 5/11/2016 Start Qty: 1.00 *1* Cust Item ID:

Required Date: 5/25/2016 Req'd Qty: 1.00 *1* Customer:

Reference: Approvals: Process Plan: Date: Tooling: Date: Run Start *NR1*

QC: Date: SPC (Y/N): Date: Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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110 Skidtubes

110 Memo 0.87

Skidtubes 1- Pick D2600-3 Bent

2- Debur FWD and AFT ends, remove bending marks. Scribe batch# inside AFT end per dwg D4168

3- Drill pilot holes for blade fitting bolt holes using DT8983. Start with 3/16", then open to 0.500" using center drill then ream holes using 0.500" reamer. PIN first side. Repeat process on second side.

ENSURE PROPER POSITIONING FWD BEND MUST BE FACING UP WHEN DRILLING FIRST SIDE

4- Locate DT8329 off of blade fitting bolt holes and drill pilot holes for blade fitting, section R-R and open to 0.500"

6- Drill most FWD wearplate hole using DT9678 locating of 66.54" hole

7- Open up holes of Detail J to 0.297" (total of 2 holes per side) +.201" (total of one hole per side) as per dwg D4168.

8- Weld D2744 Cap as per Dwg D4168 and QSI 004. Fill grooves in bend left from bending as per QSI 004

A/R Aluminum Rod batch: M34412

9- Grind welds flush as per Dwg D4168

2016-5-30

16-5-31

2016-06-03

DMS
19
0-00

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ ☐ ☐ Scrap ☐ ☐ ☐ Use-as-is ☐ ☐ ☐ Suspected Unapproved ☐ ☐ ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ ☐ ☐ ☐ ☐ Machining ☐ ☐ ☐ ☐ ☐ Thermoforming ☐ ☐ ☐ ☐ ☐ Large Fab ☐ ☐ ☐ ☐ ☐ Cross tube ☐ ☐ ☐ ☐ ☐ Small Fab ☐ ☐ ☐ ☐ ☐ Finishing ☐ ☐ ☐ ☐ ☐ Composite ☐ ☐ ☐ ☐ ☐ Water Jet ☐ ☐ ☐ ☐ ☐ Prod. Eng. Coord. ☐ ☐ ☐ ☐ ☐ Rec/Store/Packaging ☐ ☐ ☐ ☐ ☐ Supplier ☐ ☐ ☐ ☐ ☐ Engineering ☐ ☐ ☐ ☐ ☐ Quality ☐ ☐ ☐ ☐ ☐ Other ☐ ☐ ☐ ☐ ☐		MRB (QS1042) Approval _____ _____ _____	
Date : _____ Step #: _____		QTY Effective : _____		Disposition _____ _____ _____			
Description Work Order Deviation _____ _____ _____		Completed By _____ _____ _____		Lead hand / Supervisor Approval Verification _____ _____ _____			
QC / QA Coordinator Approval _____ _____ _____		Positioned Wrong _____ _____ _____		Outside Dimensions _____ _____ _____			
Over/Under tolerance _____ _____ _____		Part Incorrect _____ _____ _____		Part Lost/Missing _____ _____ _____			
Part Moved _____ _____ _____		Drawing _____ _____ _____		Finish _____ _____ _____			
Misread _____ _____ _____		Turning Sequence _____ _____ _____		Power Loss/Program _____ _____ _____			
Grain _____ _____ _____		Wrong Stock Pulled _____ _____ _____		Out of Sequence _____ _____ _____			
Off-set _____ _____ _____		Misaligned/off center _____ _____ _____		Fit/Function _____ _____ _____			
Temperature/Cure _____ _____ _____		Set-up _____ _____ _____		Power Loss/Program _____ _____ _____			
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Inspection Incomplete/Unqualified _____ _____ _____		Contamination _____ _____ _____		Wrong Stock Pulled _____ _____ _____			
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Instructions Incomplete/Unclear _____ _____ _____		Drill Holes _____ _____ _____		Off-set _____ _____ _____			
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OTHER : _____ _____ _____		Pressure/Forced _____ _____ _____		Out of Sequence _____ _____ _____			
Root Cause _____ _____ _____		Pressure/Forced _____ _____ _____		Off-set _____ _____ _____			
Environment _____ _____ _____		Operator _____ _____ _____		Power Loss/Program _____ _____ _____			
Design _____ _____ _____		Offset/Setup _____ _____ _____		Grain _____ _____ _____			
Doc/Data _____ _____ _____		Supplier _____ _____ _____		Wrong Stock Pulled _____ _____ _____			
Equip/Tooling _____ _____ _____		Training _____ _____ _____		Out of Sequence _____ _____ _____			
Handling/Pre _____ _____ _____		Use for Testing _____ _____ _____		Off-set _____ _____ _____			
Material _____ _____ _____		Poor Information _____ _____ _____		Misaligned/off center _____ _____ _____			
Internal Transport _____ _____ _____		Rushing _____ _____ _____		Fit/Function _____ _____ _____			
Tribal Knowledge _____ _____ _____		Product Improvement _____ _____ _____		Power Loss/Program _____ _____ _____			
LOA _____ _____ _____		Process Improvement _____ _____ _____		Grain _____ _____ _____			
Substation _____ _____ _____		Manufacturing Process _____ _____ _____		Wrong Stock Pulled _____ _____ _____			
Past Expiry Date _____ _____ _____		Past Due _____ _____ _____		Out of Sequence _____ _____ _____			
Misidentified _____ _____ _____		OTHER : _____ _____ _____		Off-set _____ _____ _____			

Work Order ID 144901

April 27, 2016 12:35:20 PM

144.901

Item ID: D350-636-016
Revision ID:

Accept

N.9000040100

Setup Start

NS1

Item Name: Skidtube RH, Run-on Landing Wearplates, DART(Apical) Cylind./Aerazur Float Comp.

Stop

NS2

Start Date: 5/11/2016 Start Qty: 1.00

1

Cust Item ID:

Required Date: 5/25/2016 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID Tool # Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

120

QC10- Inspect visual per QSI004- ground welds

0.00

120

QC

Memo

0.00

Quality Control

①

16.06.07

DAS
9
9-89

130

QC5- Inspect part completeness to step on W/O

0.00

130

QC

Memo

0.02

Quality Control

②

16.06.07

DAS
9
9-89

140

Chemical Conversion Coat per QSI005 4.1

0.00

140

HandFinish

Memo

0.23

Hand Finishing

16-6-9

DAS
19
9-89

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube ☐</td> <td>Cross tube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐											
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Work Order ID 144901

April 27, 2016 12:35:20 PM

144.901

Item ID: D350-636-016

Accept

Revision ID:

N.9000040100

Setup Start

N.S.1

Item Name: Skidube RH, Run-on Landing Wearplates, DART(Apical) Cylind./Aerazur Float Comp.

Stop

N.S.2

Start Date: 5/11/2016

Start Qty: 1.00

1

Cust Item ID:

Required Date: 5/25/2016

Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

150

QC7-Inspect Chemical Conversion Coat

0.00

150

Memo

0.01

QC

Quality Control

1 16-06-09

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only

Work Order: _____ Part No.: _____ NCR No.: _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐		Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐		MRB (QS1042) Approval			
Date: _____		Step #: _____		QTY Effective: _____		Disposition					
Description Work Order Deviation						Completed By					
						Lead hand / Supervisor Approval Verification					
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Root Cause						FAULT CATEGORY					
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐		No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐		Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐		Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐		Positioned Wrong ☐ Outside Dimensions ☐ Over/Under Tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	
OTHER: _____											

Work Order ID 144901

144901

April 27, 2016 12:35:20 PM

Item ID: D350-636-016

Accept

Revision ID:

N9000040100

Setup Start *NS1*

Item Name: Skidtube RH, Run-on Landing Wearplates, DART(Apical) Cylind/Acratur Float Comp.

Stop *NS2*

Start Date: 5/11/2016

1

Cust Item ID:

Required Date: 5/25/2016

1

Customer:

Reference:

Approvals: Process Plan:

Date: Tooling:

Date:

QC: Date: SPC (Y/N):

Date:

Run Start

NR1

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID Tool # Plan
Code

Accept

Reject

Reject
Number

Insp.
Stamp

160

160

Skidtubes

Skidtubes

Memo

1.20

1-Open up holes using hole saw of Detail L and ground handling to 0.625" (total of 8 holes per side) as per dwg D4168.

2-Open up holes using hole saw of Detail K to 0.750" (total of 4 holes per side) as per dwg D4168.

3-Open float hole to 0.500" using uni-bit (4 per side) and Run on wearplate holes to .375" 4 per side

4-Chamfer holes of Detail K,L, ground handling and float holes per dwg D4168 (welding instructions on sheet 9)

5-Deburr and blow out all chips from inside of tube

6-Prepare tube for welding, remove alodine as required.

7-Bond web D2739 in place as per OSI 045, let cure for 12hrs. A/R Sikaflex-291 batch: 135204 exp. date: 17-62-12

ATTN: USE I-BEAM LOCATION AID (BLADE FITTING)

8-Weld spacers D3490-1, D3490-3 and D2743 as per dwg D4168 & OSI004 (welding instructions on sheet 8) A/R Aluminum Rod batch: M341826

9-At section A-R-A-P drill out x-hole spacer to 0.404"

16-8-2 HCTA

RC/16-08-02

16-08-08



DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION		AGAINST DEPARTMENT/PROCESS							
Date: _____		Step #: _____		QTY Effective: _____		MRB (QS1042) Approval					
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								Lead hand / Supervisor Approval Verification			
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Doc/Data	Offset/Setup	Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance						
Equip/Tooling	Supplier	Cracks	Broken/Damage/Defect	Weld	Part Incorrect						
Handling/Pre	Training	Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing						
Material	Use for Testing	Cuffs	Contamination	Out of Sequence	Part Moved						
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LOA	Product Improvement	Wave/Twist in Tube	Instructions Incomplete/Unclear	Fit/Function	Misread						
Substation	Process Improvement	Marks/Chatter	Drill Holes	Misaligned/off center	Turning Sequence						
Past Expiry Date	Manufacturing Process										
Misidentified	Past Due										
OTHER: _____											

Work Order ID 144901

144901

April 27, 2016 12:35:20 PM

Item ID: D350-636-016
Revision ID:

Accept

N900040100

Setup Start

NS1

Item Name: Skidube RH, Run-on Landing Wearplates, DART(Apical) Cylind./Acratur Float Comp.

Stop

NS2

Start Date: 5/11/2016 Start Qty: 1.00

1

Cust Item ID:

Required Date: 5/25/2016 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID Tool # Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

10-Grind welds flush as per Dwg D4168

11-Spot face ground handling holes section (total of 4 places per side) as per dwg D4168

12-Cbore section CH-CH ADJUST TOOLING AS REQUIRED.
VERF BY: BT 16-08-10 16-8-10 MLG

13-Deburr holes, ensure tube is free of all scratches before sending to paint.

***** FOR DELUXE SKIDTUBE IF APPLICABLE DRILL TOW RING
HOLE IN TUBE *****
***** REF TO W/O BATCH: *****

MLG

16-8-9 MLG

QC10-Inspect visual per QS1004- ground welds

0.00

Memo

0.00

Quality Control

AUG 12 2016

DAS

38

1

988

38



DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____		DISPOSITION		AGAINST DEPARTMENT/PROCESS							
Part No. _____		Rework Scrap Use-as-is		Skid-tube Machining Thermoforming Large Fab		Cross tube Small Fab Finishing Composite		Water Jet Prod. Eng. Coord. Rec/Store/Packaging Supplier		Engineering Quality Other	
NCR No. _____		Suspected Unapproved		QTY Effective : _____		MRB (QS1042) Approval					
Date : _____		Step #: _____		Description Work Order Deviation		Disposition		Completed By			
Environment		No Re-verification		Pressure/Forced		Temperature/Cure		Power Loss/Surge		Positioned Wrong	
Design		Operator		Bending		Set-up		Folio/Program		Outside Dimensions	
Doc/Data		Offset/Setup		Centre Not Concentric		BOM/Route		Grain		Over/Under tolerance	
Equip/Tooling		Supplier		Cracks		Broken/Damage/Defect		Weld		Part Incorrect	
Handling/Pre		Training		Crimp/Kink/Ripple/Wave		Inspection Incomplete/Unqualified		Wrong Stock Pulled		Part Lost/Missing	
Material		Use for Testing		Cuffs		Contamination		Out of Sequence		Part Moved	
Internal Transport		Poor Information		Crushing		Countersink		Off-set		Drawing	
Tribal Knowledge		Rushing		Heat Treat		Cut Too Short		Mislabeled		Finish	
LOA		Product Improvement		Wave/Twist in Tube		Instructions Incomplete/Unclear		Fit/Function		Misread	
Substation		Process Improvement		Marks/Chatter		Drill Holes		Misaligned/off center		Turning Sequence	
Past Expiry Date		Manufacturing Process		OTHER : _____							
Misidentified		Past Due									

Work Order ID 144901

April 27, 2016 12:35:20 PM

144.901

Item ID: D350-636-016

Accept

Revision ID:

N.9000040100

Setup Start

N.S1

Item Name: Skidube RH, Run-on Landing Wearplates, DART(Apical) Cylind./Aerazur Float Comp.

Stop

N.S2

Start Date: 5/11/2016 Start Qty: 1.00

1

Cust Item ID:

Required Date: 5/25/2016 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start

N.R1

QC:

Date:

SPC (Y/N):

Date:

Stop

N.R2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID Tool # Plan
Code

Accept Qty Reject Qty
Number

Insp.
Stamp

180 QCS-Inspect part completeness to step on W/O

0.00

1RQ

QC

Memo

0.02

Quality Control

VERIFY C/BOARD IS GOOD

AUG 12 2016

190 Pressure Wash per OSI005 4.3

0.00

1QN

HandFinish

Memo

0.63

Hand Finishing

Re-alodine tube as per OSI 005 section 4.1.2.1 do not acid etch.

200

0.00

2NN

SprayPaint

Memo

0.25

Spray Painting

1-PRIME AS PER DWG AND OSI 005 4.2
PRIMER PRC DESOTO 515X349 BATCH: 134937

2-PAINT WHITE AS PER DWG AND OSI 005 4.2
PAINT BATCH: 135064

DAS

41

9-89

10-8-16

2016/08/15
BEB.



DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

DISPOSITION		AGAINST DEPARTMENT/PROCESS				
Work Order: _____	Suspected Unapproved	Rework Scrap Use-as-is	Skid-tube Machining Thermoforming Large Fab	Cross tube Small Fab Finishing Composite	Water Jet Prod. Eng. Coord. Rec/Store/Packaging Supplier	Engineering Quality Other
Part No. _____						
NCR No. _____						
Date: _____	Step #: _____	QTY Effective : _____				
Description Work Order Deviation		Disposition				
Completed By		MIRB (QS1042) Approval				
Lead hand / Supervisor Approval Verification		QC / QA Coordinator Approval				

FAULT CATEGORY									
Root Cause		Pressure/Forced		Temperature/Cure		Power Loss/Surge		Positioned Wrong	
Environment	No Re-verification	Bending	Set-up	Set-up	Folio/Program	Outside Dimensions	Over/Under tolerance	Part Incorrect	Part Lost/Missing
Design	Operator	Centre Not Concentric	BOM/Route	Broken/Damage/Defect	Grain	Part Moved	Part Moved	Drawing	Finish
Doc/Data	Offset/Setup	Cracks	Inspection Incomplete/Unqualified	Contamination	Weld	Wrong Stock Pulled	Out of Sequence	Misread	Turning Sequence
Equip/Tooling	Supplier	Crimp/Kink/Ripple/Wave	Countersink	Cut Too Short	Wrong Stock Pulled	Out of Sequence	Off-set	Misread	Turning Sequence
Handling/Pre	Training	Cuffs	Instructions Incomplete/Unclear	Drill Holes	Wrong Stock Pulled	Out of Sequence	Off-set	Misread	Turning Sequence
Material	Use for Testing	Crushing	Heat Treat	Wave/Twist in Tube	Wrong Stock Pulled	Out of Sequence	Off-set	Misread	Turning Sequence
Internal Transport	Poor Information	Heat Treat	Wave/Twist in Tube	Wave/Twist in Tube	Wrong Stock Pulled	Out of Sequence	Off-set	Misread	Turning Sequence
Tribal Knowledge	Rushing	Heat Treat	Wave/Twist in Tube	Wave/Twist in Tube	Wrong Stock Pulled	Out of Sequence	Off-set	Misread	Turning Sequence
LOA	Product Improvement	Heat Treat	Wave/Twist in Tube	Wave/Twist in Tube	Wrong Stock Pulled	Out of Sequence	Off-set	Misread	Turning Sequence
Substation	Process Improvement	Heat Treat	Wave/Twist in Tube	Wave/Twist in Tube	Wrong Stock Pulled	Out of Sequence	Off-set	Misread	Turning Sequence
Past Expiry Date	Manufacturing Process	Heat Treat	Wave/Twist in Tube	Wave/Twist in Tube	Wrong Stock Pulled	Out of Sequence	Off-set	Misread	Turning Sequence
Misidentified	Past Due	Heat Treat	Wave/Twist in Tube	Wave/Twist in Tube	Wrong Stock Pulled	Out of Sequence	Off-set	Misread	Turning Sequence
OTHER :									

Work Order ID 144901

April 27, 2016 12:35:20 PM

144901

Item ID: D350-636-016
Revision ID:

Accept

N9000040100

Setup Start

NS1

Item Name: Skidtube RH, Run-on Landing Wearplates, DARTY(Apical) Cylind./Aerazur Float Comp.

Stop

NS2

Start Date: 5/11/2016

1

Cust Item ID:

Required Date: 5/25/2016

1

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID Tool # Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

210

QC14- Inspect Spray Paint

0.00

210

Memo

Inspect for foreign object per QSI 024

0.01

QC

230

230

HandFinishing

0.00

HandFinish

Memo

1- Install inserts as per Dwg D4168

1.23

Hand Finishing

2-Inspect for Foreign Objects

3-Install blade fitting D3488-041, wearshoes and ground handling hardware as per dwg D4168

SIKA FLEX 241

BATCH: M135376

EXP DATE: 1617

4-assemble o'ring to plug as per dwg D3492 and apply o'ring lube

A/R 55-o'ring lube batch: M133145

RTU 548 M135047 1766

5-Coat all exposed fasteners with "LPS Procyon"

batch: M133140

VRH d 2016/05/18
9-89

VRH d 2016/08/10

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐ Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐		AGAINST DEPARTMENT/PROCESS QTY Effective : _____ Step #: _____ MRB (QS1042) Approval ☐	
Description Work Order Deviation		Disposition			
Completed By		Lead hand / Supervisor Approval Verification			
QC / QA Coordinator Approval		QC / QA Coordinator Approval			

FAULT CATEGORY																								
Root Cause					Fault Category																			
Environment	Design	Doc/Data	Equip/Tooling	Handling/Pre	Material	Internal Transport	Tribal Knowledge	LOA	Substation															
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐															
No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐					Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐					Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐					Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐					Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐				
OTHER : _____																								

Work Order ID 144901

April 27, 2016 12:35:20 PM

144.901

Item ID: D350-636-016 Accept *N.9000040100* Setup Start *N.S1*

Revision ID: Skidube RH, Run-on Landing Wearplates, DAKT(Apical) Cylind./Aerazur Float Comp. Stop *N.S2*

Item Name: Start Date: 5/11/2016 Start Qty: 1.00 *1* Cust Item ID:

Required Date: 5/25/2016 Req'd Qty: 1.00 *1* Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date: Run Start *NR1*

QC: Date: SPC (Y/N): Date: Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

240 *240* QC Memo 0.02 0.00 0.00 9-89

Quality Control

250 Pick Kit 0.00

250

Packaging

Packaging

Memo
If making a D350-636-216
pick kit will only requires:
1 X AN3C37A
1 X AN3C34A
1 X AN3C42A
2 X D3493-1

260 QC4- 100% Inspect kits for completeness 0.00

260

QC

Quality Control

Memo
*****ensure antiseize is on AN8C21A bolts*****

AUG 21 2016



DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only

Work Order: _____		DISPOSITION		AGAINST DEPARTMENT/PROCESS							
Part No. _____		Rework _____ Scrap _____ Use-as-is _____		Skid-tube _____ Machining _____ Thermoforming _____ Large Fab _____		Cross tube _____ Small Fab _____ Finishing _____ Composite _____		Water Jet _____ Prod. Eng. Coord. _____ Rec/Store/Packaging _____ Supplier _____		Engineering _____ Quality _____ Other _____	
NCR No. _____		Suspected Unapproved _____		QTY Effective : _____						MRB (QS1042) Approval	
Date : _____		Step #: _____		Disposition							
Description Work Order Deviation										Completed By	
										Lead hand / Supervisor Approval Verification	
										QC / QA Coordinator Approval	
Root Cause		Pressure/Forced		Temperature/Cure		Power Loss/Surge		Positioned Wrong			
Environment	No Re-verification	Bending	Set-up	Folio/Program	Outside Dimensions						
Design	Operator	Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance						
Doc/Data	Offset/Setup	Cracks	Broken/Damage/Defect	Weld	Part Incorrect						
Equip/Tooling	Supplier	Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing						
Handling/Pre	Training	Cuffs	Contamination	Out of Sequence	Part Moved						
Material	Use for Testing	Crushing	Countersink	Off-set	Drawing						
Internal Transport	Poor Information	Heat Treat	Cut Too Short	Mislabeled	Finish						
Tribal Knowledge	Rushing	Wave/Twist in Tube	Instructions Incomplete/Unclear	Fit/Function	Misread						
LOA	Product Improvement	Marks/Chatter	Drill Holes	Misaligned/off center	Turning Sequence						
Substation	Process Improvement										
Past Expiry Date	Manufacturing Process										
Misidentified	Past Due										
OTHER : _____											

Work Order ID 144901

April 27, 2016 12:35:20 PM

144.901

Item ID: D350-636-016

Accept

Revision ID:

N9000040100

Setup Start

N.S1

Item Name: Skidtube RH, Run-on Landing Wearplates, DART(Apical) Cylind./Aerazur Float Comp.

Stop

N.S2

Start Date: 5/11/2016 Start Qty: 1.00

1

Cust Item ID:

Required Date: 5/25/2016 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run

Start

N.R1

QC:

Date:

SPC (Y/N):

Date:

Stop

N.R2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID Tool # Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

270

270

Packaging

Packaging

Memo

Identify and pack for shipping as per PPPD350-636-016
Location : FG071

0.00

DAS 28 9-89
27 9-89

SEP 12 2016

280

280

QC

Quality Control

QC21 - Final Inspection - Work Order Release

0.00

Memo

0.10

DAS 21 9-89

SEP 12 2016

DAS 21 9-89

SEP 12 2016



DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION		AGAINST DEPARTMENT/PROCESS							
Date: _____		Step #: _____		QTY Effective: _____		MRB (QS1042) Approval					
Description Work Order Deviation		Disposition						Completed By			
										Lead hand / Supervisor Approval Verification	
										QC / QA Coordinator Approval	
FAULT CATEGORY											
Root Cause		FAULT CATEGORY									
Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/Surge	Positioned Wrong						
Design	Operator	Bending	Set-up	Folio/Program	Outside Dimensions						
Doc/Data	Offset/Setup	Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance						
Equip/Tooling	Supplier	Cracks	Broken/Damage/Defect	Weld	Part Incorrect						
Handling/Pre	Training	Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing						
Material	Use for Testing	Cuffs	Contamination	Out of Sequence	Part Moved						
Internal Transport	Poor Information	Crushing	Countersink	Off-set	Drawing						
Tribal Knowledge	Rushing	Heat Treat	Cut Too Short	Mislabeled	Finish						
LOA	Product Improvement	Wave/Twist in Tube	Instructions Incomplete/Unclear	Fit/Function	Misread						
Substation	Process Improvement	Marks/Chatter	Drill Holes	Misaligned/off center	Turning Sequence						
Past Expiry Date	Manufacturing Process										
Misidentified	Past Due										
		OTHER: _____									

Picklist Print

April 27, 2016 12:35:26 PM

Work Order ID: 144901

Parent Item: D350-636-016

Parent Item Name: Skidtube RH, Run-on Landing Wearplates, DART(Apical) Cylind./Aerazur Float Comp.

Start Date: 5/11/2016

Required Date: 5/25/2016

144901

D350-636-016

Comments:

IPP rev:A 10.09.28 new issue DD ver:fEC
11.04.14 ecn11-553 DD ver:fEC
per NCR 11-906 DD ver:fEC
594 DD VER:fJLM

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D3490-1 Manufactured No 160 Each 12.0000 4 4

D3490-1

Cross Bolt Spacer

8144632 x4
85160808

D3490-3

D3490-3

Cross Bolt Spacer

Manufactured No 160 Each 96.0000 4 4

85160808
8148744 x4

Location

LG001
137807
140801

Loc Qty

96
2
94

Loc Code

230 Each 4.0000

1

AN3C34A
AN3C34A
BOLT

Purchased No

Location

ST348

Loc Qty

4

Loc Code

m133483

4

v1

116108118

Picklist Print

April 27, 2016 12:35:26 PM

Work Order ID: 144901

Parent Item: D350-636-016

Parent Item Name: Skidube RH, Run-on Landing Wearplates, DART(Apical) Cylind/Aerazur Float Comp.

Start Date: 5/1/2016

Required Date: 5/25/2016

144901

D350-636-016

AN3C42A

Purchased

No

230

Each

83.0000

Start Qty: 1.00
1

Required Qty: 1.00

AN3C42A
Bolt

**

PC DAS 28 9-89

DAS 27 9-89

Location

Loc Qty

Loc Code

FG

121103

5

OVER002

50

m132674

10

m133091

10

m133336

10

m134131

10

m134133

10

ST338a

3

m130485

3

ST346

15

m132381

5

m132522

10

ST347

10

m133920

10

D3488-042

Manufactured

No

230

Each

6.0000

1

1

D3488-042
Blade Fitting RH

**

28 16108118

Location

Loc Qty

Loc Code

FP001

138866

6

8144738

21

D3492-1

Manufactured

No

230

Each

12.0000

8

8

D3492-1
Plug

**

28 16108119

Location

Loc Qty

Loc Code

FP001

141659

12

81417576

20

April 27, 2016 12:35:26 PM

Shop Packet Print

Picklist Print

April 27, 2016 12:35:26 PM

Work Order ID: 144901

Parent Item: D350-636-016

Parent Item Name: Slide Tube RH, Run-on Landing Wearplates, DART(Apical) Cylind./Aerazur Float Comp.

Start Date: 5/11/2016

Required Date: 5/25/2016

144901

D350-636-016

D3492-3 Manufactured No

230 Each 43.0000 Start Qty: 1.00 8 8

Required Qty: 1.00

D3492-3 Plug

**

Location FP001

133470
141585

Loc Qty 43
3
40

Loc Code

B.142864

x2

D3873-1 Manufactured No

230 Each 153.0000

7 7

D3873-1 Bushing

**

Location FP001

136425
137632
141441

Loc Qty 133
82
1
50
20
20

Loc Code

x7

D4154-041 Manufactured No

230 Each 2.0000

1 1

D4154-041 Wearplate Assembly

**

Location FP002

138703

Loc Qty 2

Loc Code

x4

D4170-1 Manufactured No

230 Each 41.0000

4 4

D4170-1 Bushing

**

Location LG001

107896

Loc Qty 41

Loc Code

4

April 27, 2016 12:35:26 PM

Shop Packet Print

Picklist Print

April 27, 2016 12:35:26 PM

Work Order ID: 144901

Parent Item: D350-636-016

Parent Item Name: Skidtube RH, Run-on Landing Wearplates, DART(Apical) Cylind/Aerazur Float Comp.

Start Date: 5/11/2016

Required Date: 5/25/2016

144901

D350-636-016

D4171-1

Manufactured No

230 Each

19,0000 Start Qty: 1.00 1

Required Qty: 1.00

D4171-1

Bushing

**

200 16/08/16

Location

Loc Qty

Loc Code

ST088

137712

19

230 Each

1,050,000

5

5

MS21043-3

Purchased No

MS21043-3
Nut

Location

Loc Qty

Loc Code

FG

103691

80

FP001

m130673

11

GA

m133990

11

OVER007

m134502

385

ST302

m133577

68

ST304

m131340

106

15

Picklist Print

April 27, 2016 12:35:26 PM

Work Order ID: 144901

Parent Item: D350-636-016

Parent Item Name: Skidtube RH, Run-on Landing Wearplates, DART(Apical) Cylind./Acrazur Float Comp.

Start Date: 5/11/2016

Required Date: 5/25/2016

144901

D350-636-016

NAS1149C0363R

Purchased

No

230

Each

706.0000

Start Qty: 1.00
9

Required Qty: 1.00

NAS1149C0363R

Washer

**

20 16108118

Location

Loc Qty

Loc Code

FP001

301

114742

6

m133077

295

GA

345

m133077

345

ST266

60

m133077

60

NAS1515H3L

Purchased

No

230

Each

211.0000

Start Qty: 1.00
4

4

NAS1515H3L

Washer

**

20 16108118

Location

Loc Qty

Loc Code

FG

40

102472

40

FP001

67

m127831

67

ST260a

100

m134508

100

ST266

4

m130726

4

NAS1611-010

Purchased

No

230

Each

189.0000

Start Qty: 1.00
8

8

NAS1611-010

O-RING

**

20 16108118

Location

Loc Qty

Loc Code

FP001

189

m130770

77

m131618

12

m134593

100

16135243

16

April 27, 2016 12:35:26 PM

Shop Packet Print

Picklist Print

April 27, 2016 12:35:26 PM

Page 8

Work Order ID: 144901

Parent Item: D350-636-016

Parent Item Name: Skidtube RH, Run-on Landing Wearplates, DART(Apical) Cylind./Aerazur Float Comp.

Start Date: 5/11/2016

Required Date: 5/25/2016

144.901

D350-636-016

D2743

Manufactured No

160 Each

131.0000 Start Qty: 1.00 8 8

Required Qty: 1.00

D274.3

Crossbolt Spacer

Location

Loc Qty

Loc Code

LG001

141078

131

131

160 Each

6.0000

1

1

D2739
D273.9
350 I Beam

Manufactured No

Location

Loc Qty

Loc Code

LG002

140830

142914

6

1

5

230 Each

404.0000

4

4

ALS4-1032-225
ALS4-1032-225
Rivnut

AELS8-1032-225 Purchased

No

Location

Loc Qty

Loc Code

FG

M127028

FP001

M133772

ST

M133799

ST280

M128454

120

120

15

15

30

30

239

239

M134935

xy

146129

1

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4

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16 08.03

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8460808

April 27, 2016 12:35:26 PM

Shop Packet Print

Page 8

Picklist Print

April 27, 2016 12:35:26 PM

Work Order ID: 144901

Parent Item: D350-636-016

Parent Item Name: Skidtube RH, Run-on Landing Wearplates, DART(Apical) Cylind./Acrazur Float Comp.

Start Date: 5/11/2016

Required Date: 5/25/2016

144.901

D350-636-016

AN8C35A

Purchased No

230 Each

Start Qty: 1.00
1

Required Qty: 1.00

AN8C35A
Bolt

**

21 16108118

Location

Loc Qty

Loc Code

FG

121275

5

FP001

m132381

16

m132522

1

over005

m133332

75

m133336

15

m134130

15

m134131

15

m134133

15

Purchased No

230

Each

429.0000

AN6C44A
AN6C44A
Bolt

**

4

21 16108116

Location

Loc Qty

Loc Code

FP001

131649

81

m130863

50

m131151

9

over009

m132522

22

m132556

298

ST333

m130863

52

m131946

246

46

Picklist Print

April 27, 2016 12:35:26 PM

Page 10

Work Order ID: 144901

Parent Item: D350-636-016

Parent Item Name: Skidtube RH, Run-on Landing Wearplates, DAKT(Apical) Cylind./Aerzaur Float Comp.

Start Date: 5/11/2016

Required Date: 5/25/2016

144.901

D350-636-016

MS21083C8

Purchased No

230 Each

Start Qty: 1.00
1 1

Required Qty: 1.00

MS21083C8
Nut

**

20 16108118

Location

Loc Qty

Loc Code

FP001

m133990

9

11134676

11

ST297

m134055

33

13

m134509

20

230 Each

147.0000

8

8

Manufactured No

230

D3631-1
D3631-1
Washer

**

20 16108118

Location

Loc Qty

Loc Code

FP001

140533

147

142562

47

230 Each

3,413.000

4

4

Purchased No

NAS1149C0332R
NAS1149C0332R
WASHER

**

20 16108118

Location

Loc Qty

Loc Code

FP001

m132262

1732

m132930

4

m134063

1004

m134073

596

GA

128

m133284

225

ST266

225

m134474

1456

m134574

356

m134654

1000

100

11135046

11

April 27, 2016 12:35:26 PM

Shop Packet Print

Page 10

Picklist Print

April 27, 2016 12:35:26 PM

Work Order ID: 144901

Parent Item: D350-636-016

Parent Item Name: Skidtube RH, Run-on Landing Wearplates, DART(Apical) Cyliind./Acrazur Float Comp.

Start Date: 5/11/2016

Required Date: 5/25/2016

144901
D350-636-016

D2/45

Manufactured No

230 Each

Start Qty: 1.00
8

Required Qty: 1.00

D2745
Bushing

**

Location
FP001

129584
136214
141061

Loc Qty

57
7
2
48

Loc Code

13144633

230 Each

55.0000

1

1

NAS1149C0832R
Purchased No
NAS1149C0832R
Washer

**

Location
FP001

m125807

Loc Qty

55
55

Loc Code

230 Each

174.0000

4

4

AN3C6A
Purchased No
AN3C6A
Bolt

**

Location
CA

m128704

Loc Qty

31
31

Loc Code

FP001

122416

10

m128769

m133363

m133990

ST338a

m133077

ST349

m132767

m133694

m134502

94

44

April 27, 2016 12:35:26 PM

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April 27, 2016 12:35:26 PM

14901

D350-636-016

Start Date: 5/11/2016

Required Date: 5/25/2016

Purchased	No
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
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93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

250 Each

Start Qty: 1.00
120.0000 2

Required Qty: 1.00

AN8C21A
Bolt

科

② $x \sim 134136 \text{ pc}$

28 9-88

DAS
27
9-85

Location

Loc Q1y

Loc Code

over005

123966
m132169

224

m134130
m134514
m134590

ST332

m132169
m132522
m133917

250

Each

36.0000

1

D2741
D2741
Replacement Blade

DAS
27
9-89

Manufactured No

Location

Loc Q1y

Loc Code

AUG 22 2016

中

ST538

131616

10

26

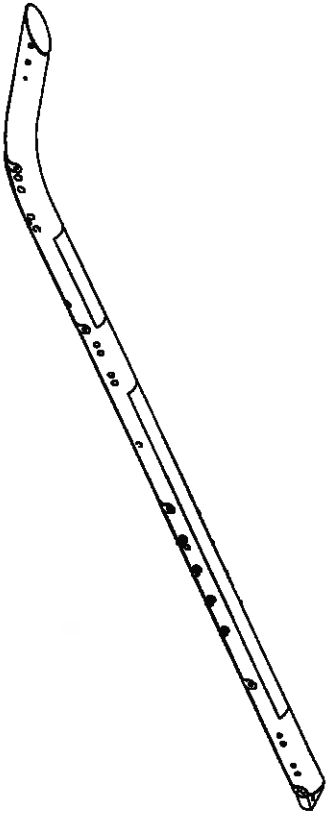
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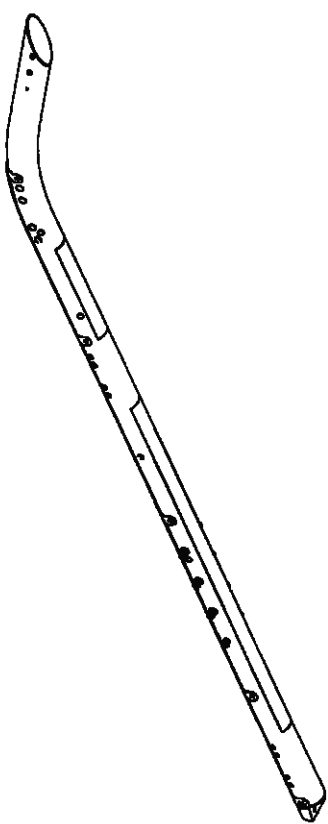
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Shop Packet Print



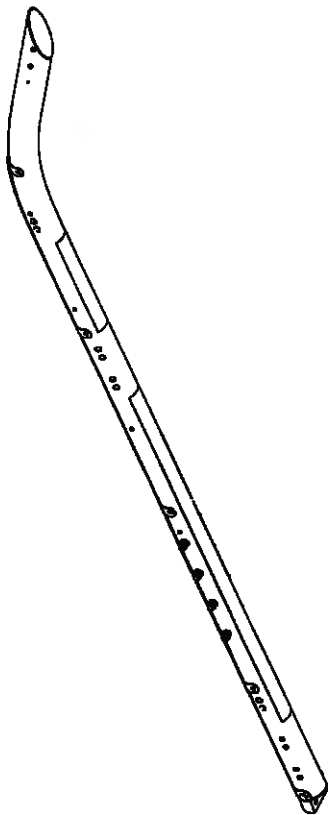
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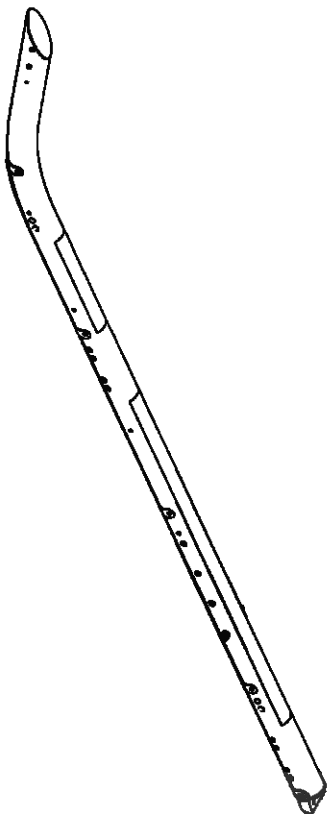
D4168-042 350 SKIDTUBE ASSEMBLY, RH

RELEASE
 N 2013-08-13
 JNV

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CHECKED	DATE	13.07.11	
MFG. APPR.			
APPROVED			
DATE	13.07.11		
TITLE 350 SKIDTUBE ASSEMBLY			DART AEROSPACE USA, INC. 10000 DART AEROSPACE DRIVE KENT, WA 98035 (206) 875-1000 FAX (206) 875-1001 WWW.DARTAEROSPACE.COM



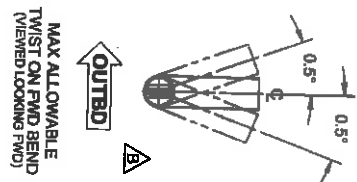
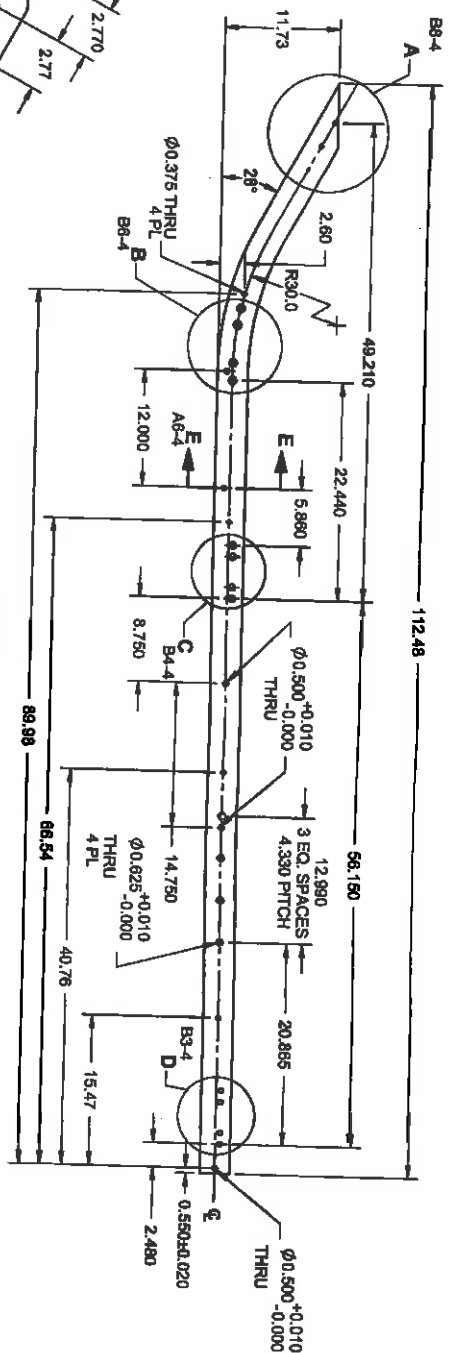
D4168-043 350 SKIDTUBE ASSEMBLY, LH



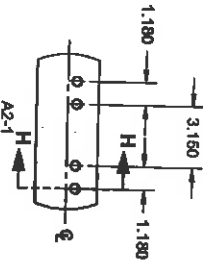
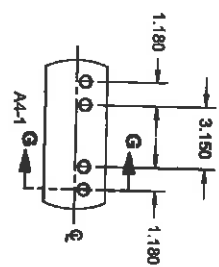
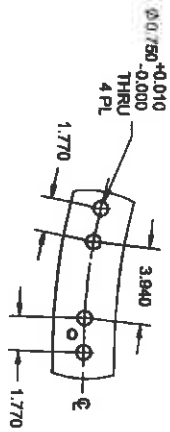
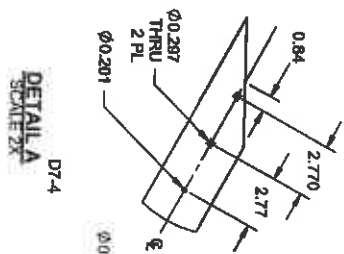
D4168-044 350 SKIDTUBE ASSEMBLY, RH

RELEASED
2013-08-13
MAD

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DRAWN		
CHECKED		
APPROVED		
DATE		



D4168-1 LH SKIDTUBE

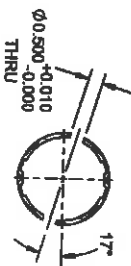
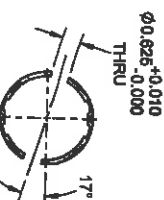
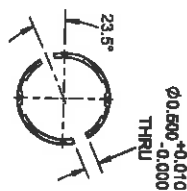


DETAIL A
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DETAIL B
SCALE 2X

DETAIL C
SCALE 2X

DETAIL D
SCALE 2X



SECTION E-E
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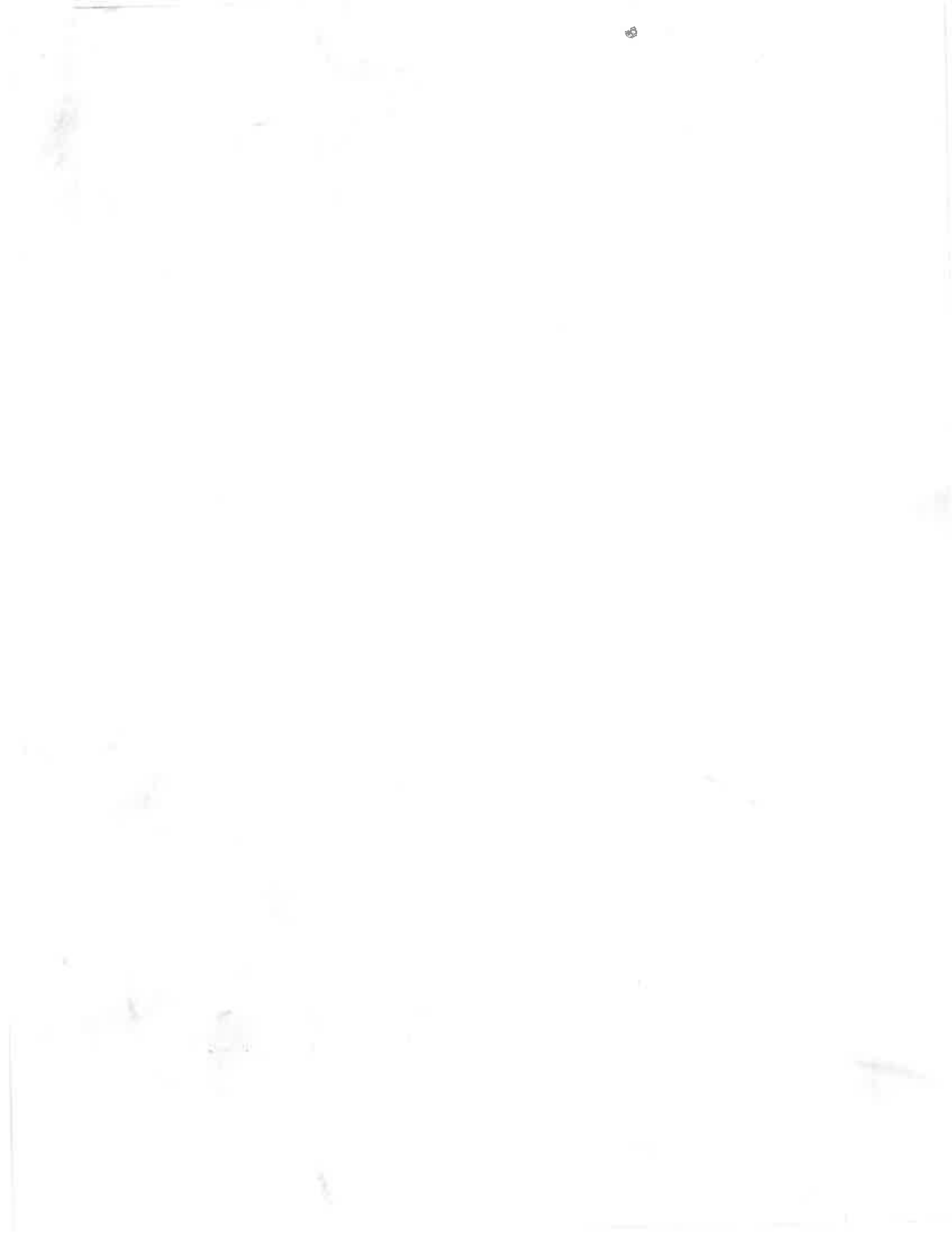
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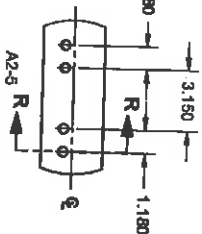
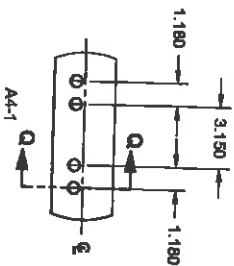
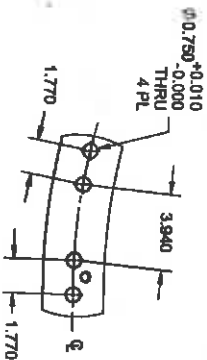
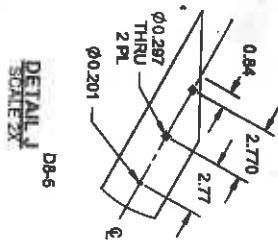
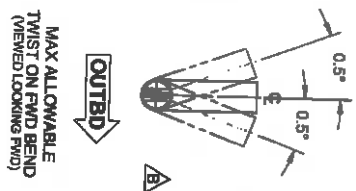
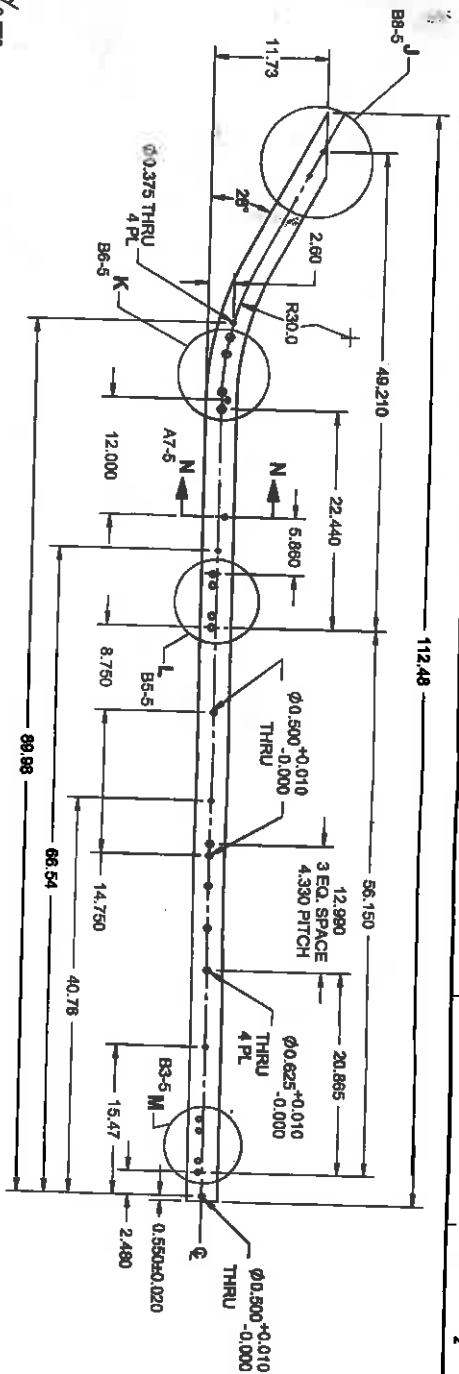
SECTION H-H
SCALE 3X, 4 PL

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CHECKED	SC	REV. A
MFG. APPR.	SC	REV. A
APPROVED	SC	REV. A
DATE	13.07.11	REV. A
TITLE		SHEET 4 OF 11
350 SKIDTUBE ASSEMBLY		SCALE
N/A		NTS

RELEASED
2013-08-13

DART AEROSPACE USA, INC.
KENT, WA

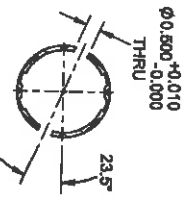




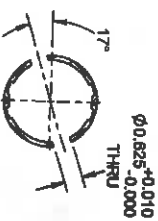
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SCALE 2X

DETAIL L
SCALE 2X

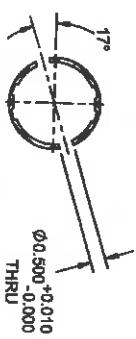
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SECTION N-N
SCALE 3X. 2 PL



SECTION O-O
SCALE 3X. 4 PL

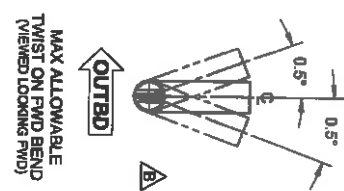
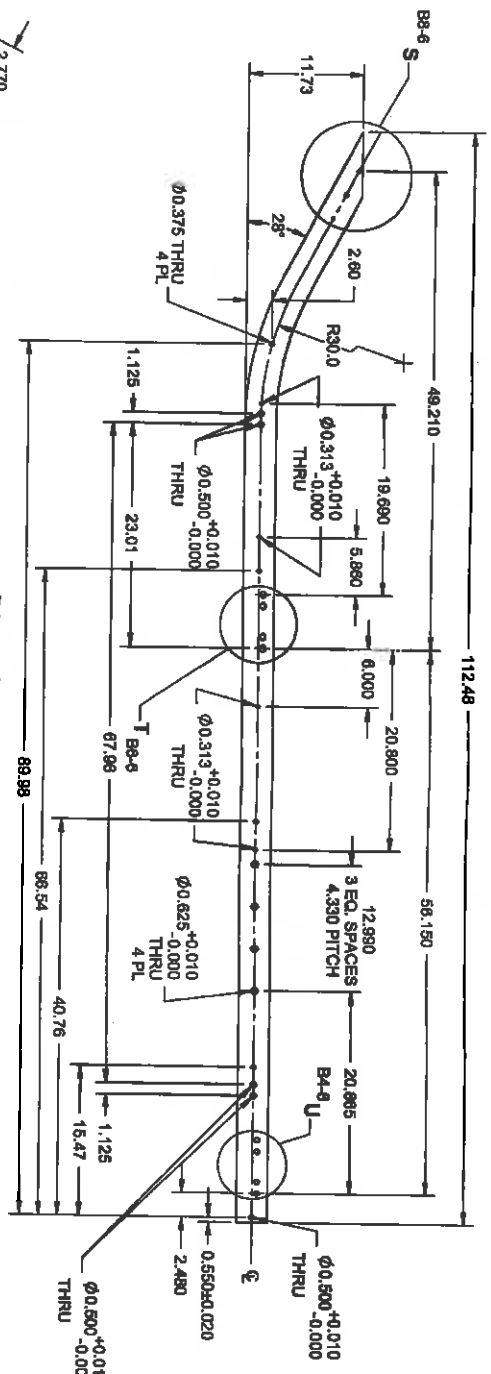


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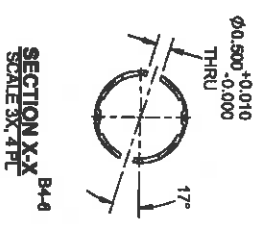
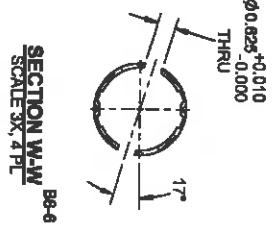
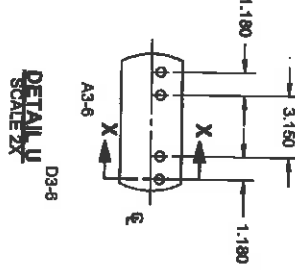
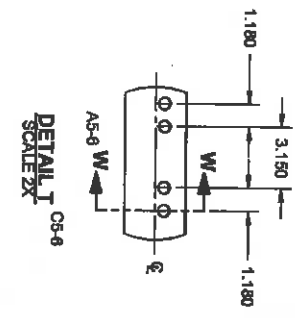
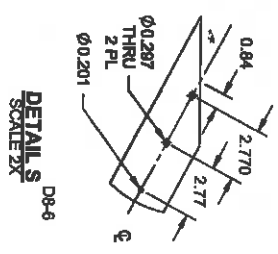
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CHECKED	
ING. APPR	
APPROVED	
DE APPR	
DATE	13.07.11

DART AEROSPACE USA, INC.
KENT, WA
DRAWING NO. **D4168**
TITLE **350 SKIDTUBE ASSEMBLY**
SHEET 8 OF 11
SCALE
NTS
DESIGNED & DRAWN BY DART AEROSPACE USA, INC.
FOR THE U.S. AIR FORCE, WRIGHT-PATTERSON AIR FORCE BASE, OHIO
REVISIONS: 1. 13.07.11

RELEASED
R 2013-08-13
JNH

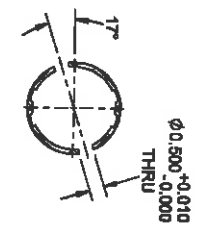
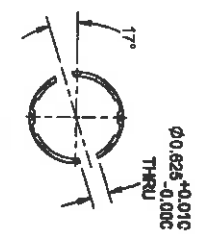
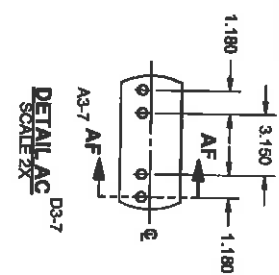
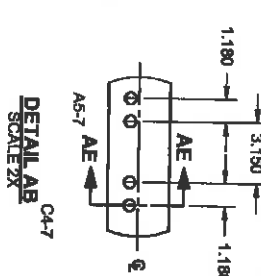
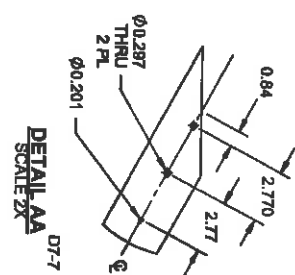
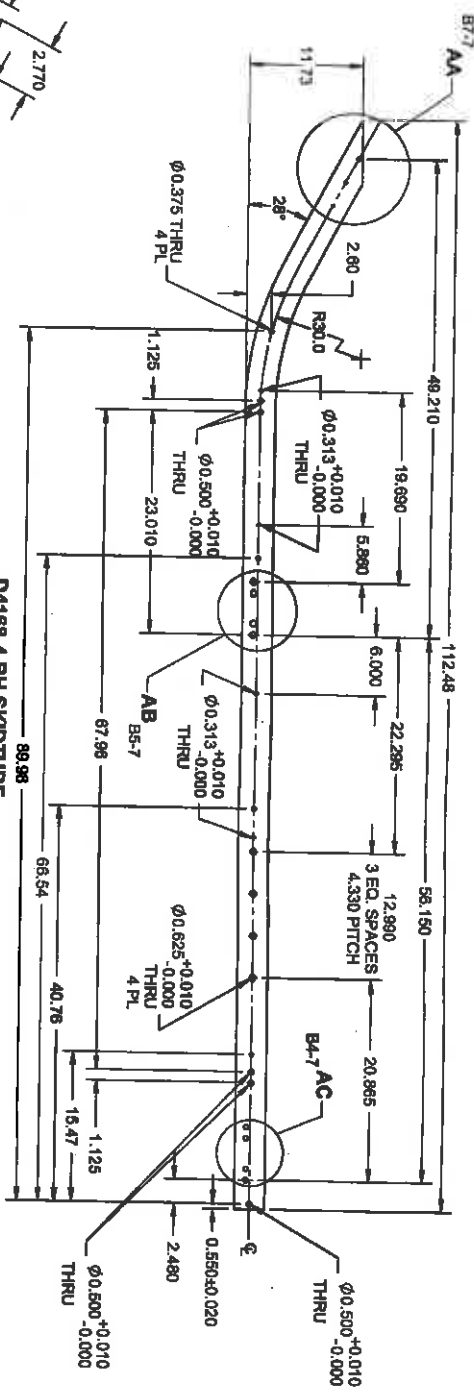


D4168-3 LH SKIDTUBE



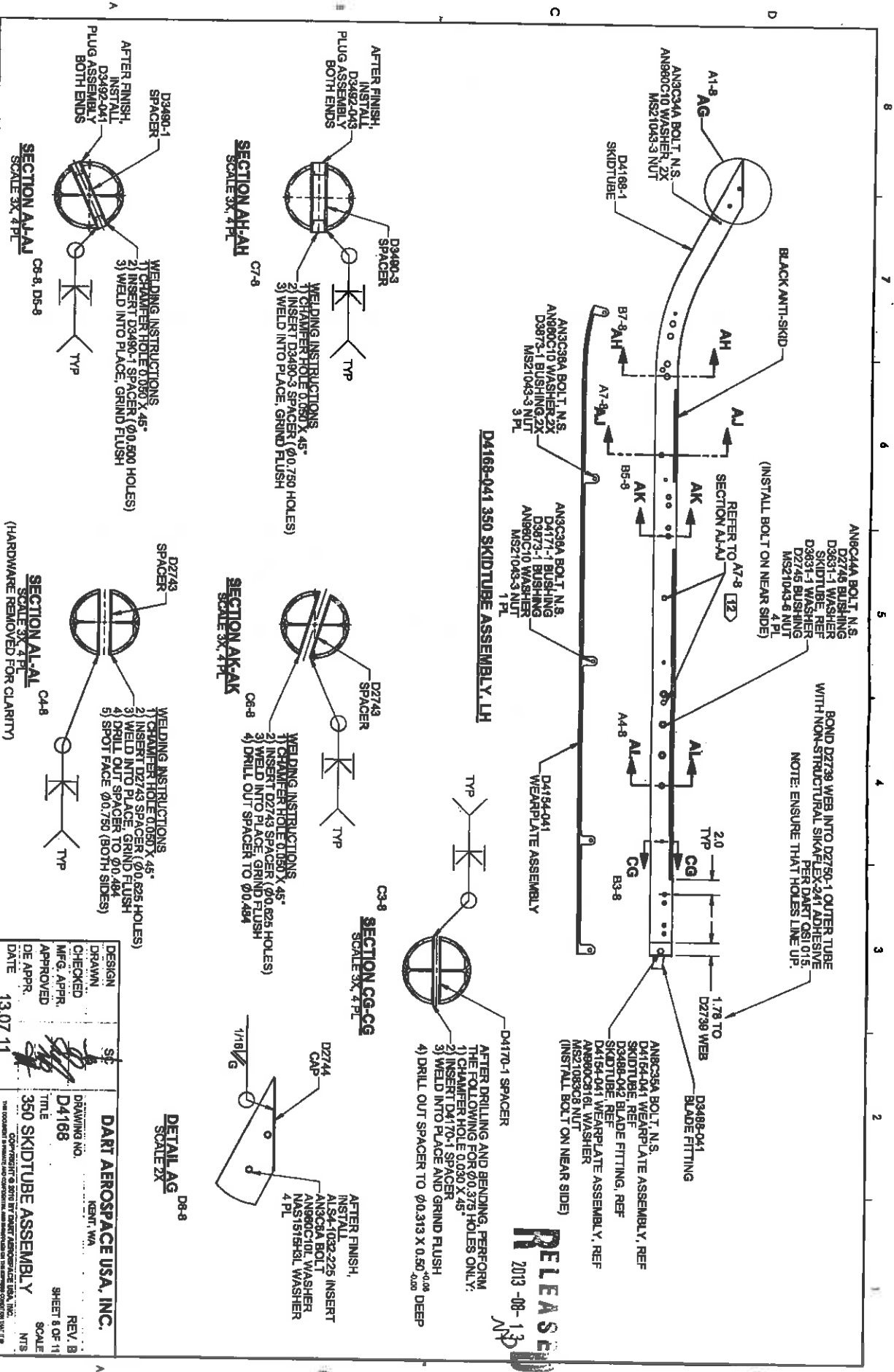
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CHECKED	APPROVED		
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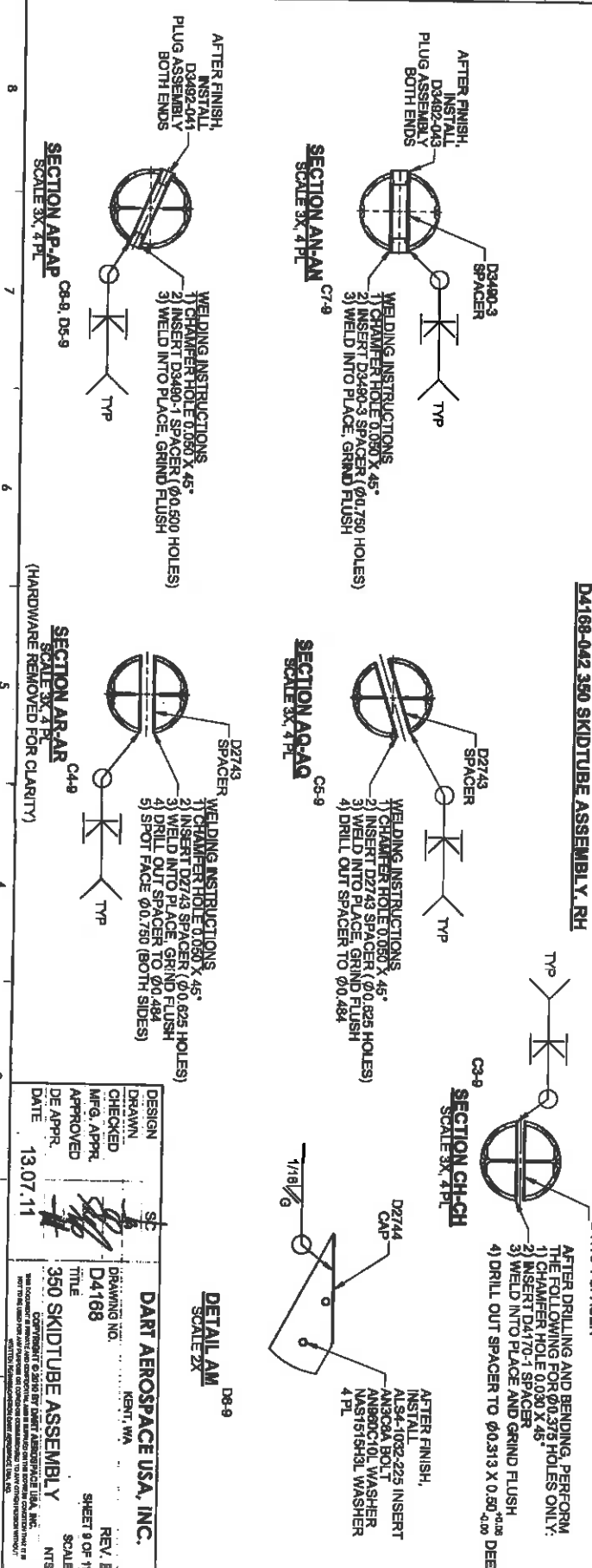
RELEASED
 R 2013-08-13
 MP

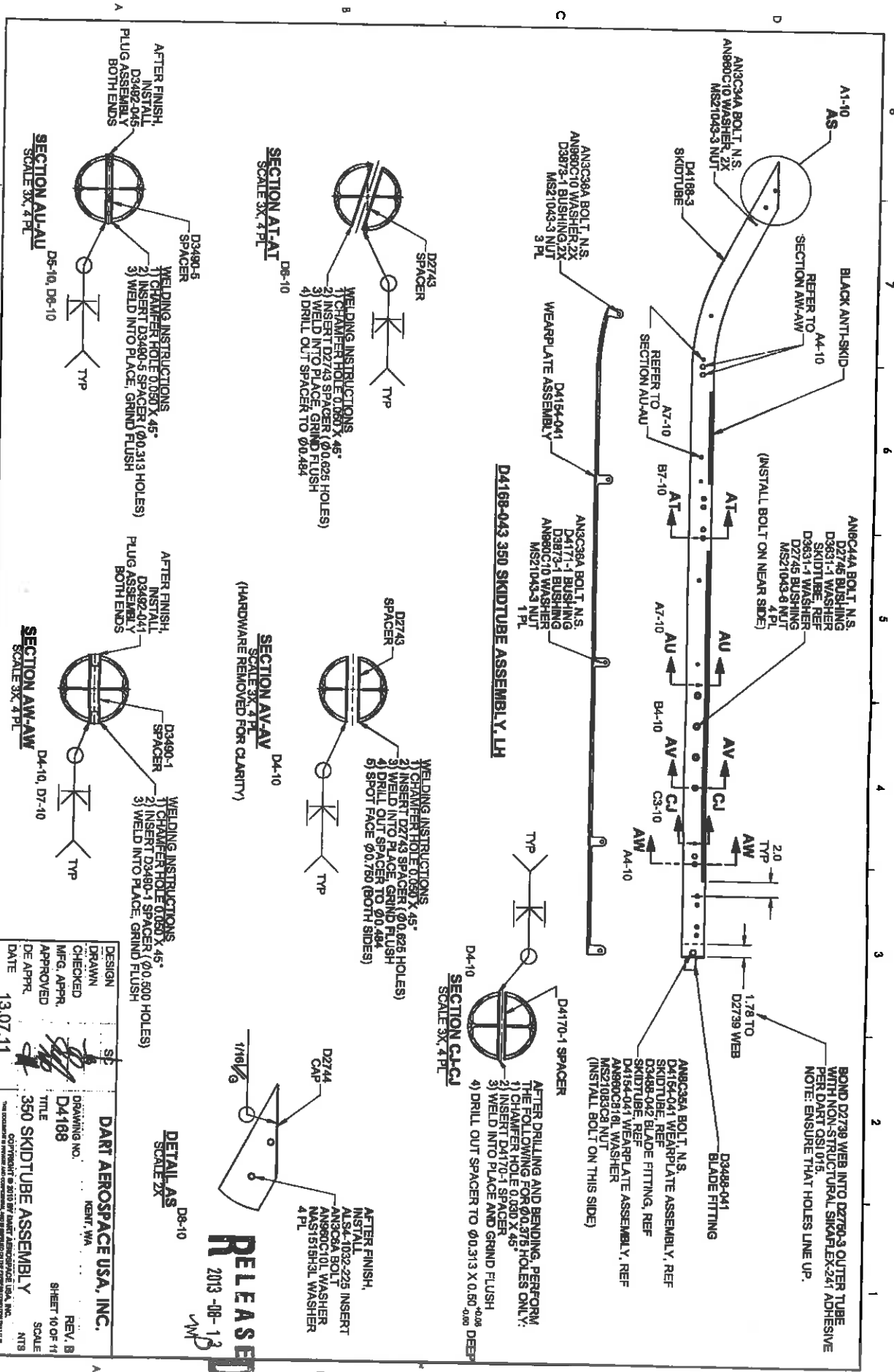


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DRAWN		
CHECKED		
MFG. APPR.		
APPROVED		

RELEASED
 R 2013-08-13
 JWP





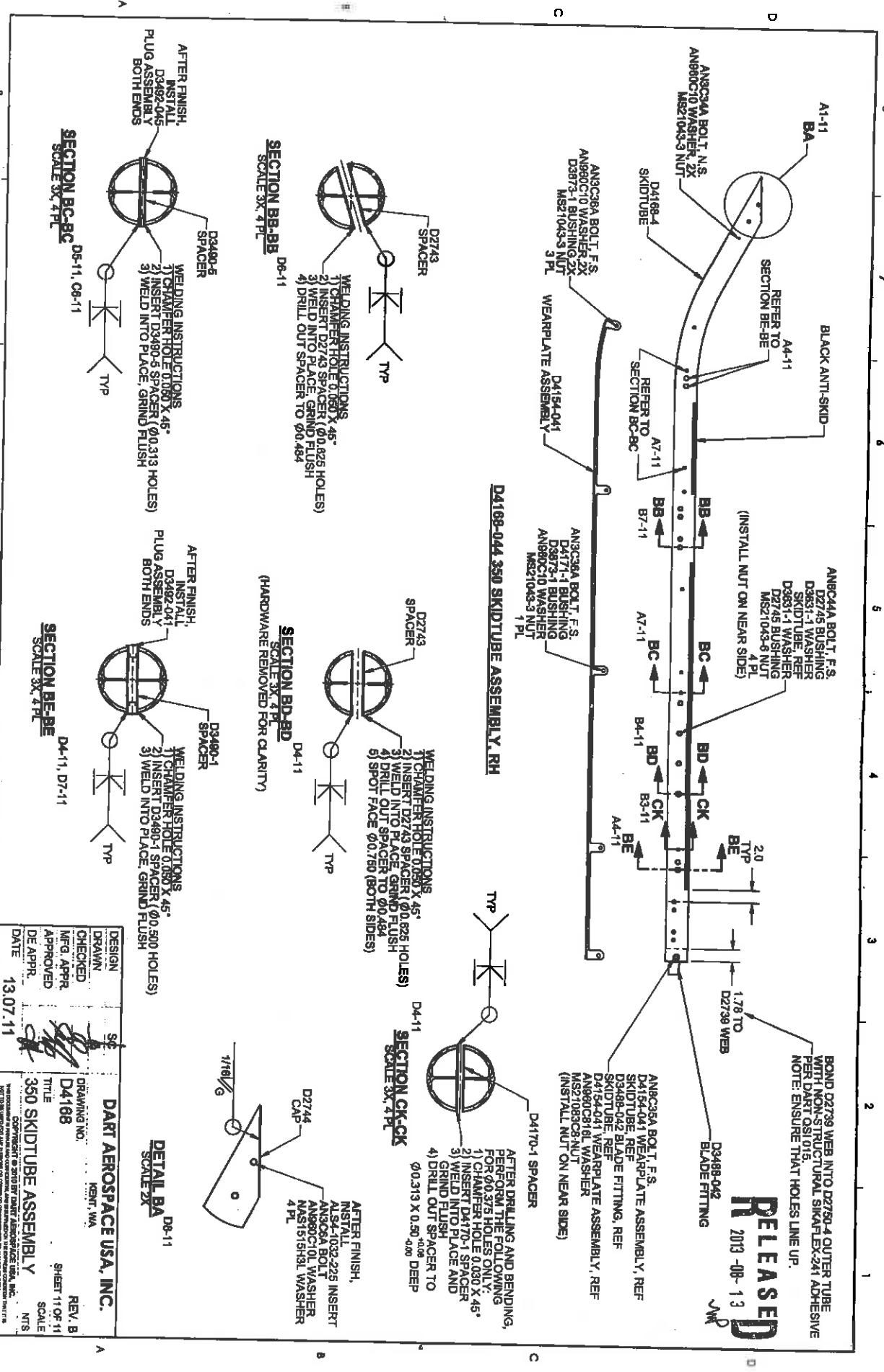


DESIGN	SP	DART AEROSPACE USA, INC.	REV. B
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MFG. APPR.		DATE	13.07.11
APPROVED		TITLE	350 SKIDTUBE ASSEMBLY
DE APPR.		SCALE	NTS
DATE			

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BOND D2739 WEB INTO D2750-4 OUTER TUBE WITH NON-STRUCTURAL SKIDTUBE-241 ADHESIVE PER DART OSI 015
NOTE: ENSURE THAT HOLES LINE UP.

RELEASED
2013-06-13
JWP



DESIGN	DART AEROSPACE USA, INC.	REV. B
DRAWN	1801	SHEET 11 OF 11
CHECKED	1801	SCALE
ING. APPR.	1801	NTS
DE APPR.	1801	
DATE	13.07.11	
TITLE	350 SKIDTUBE ASSEMBLY	
COMPONENT	© 2010 BY DART AEROSPACE USA, INC.	
ALL RIGHTS RESERVED		

SECTION AA-AA
SCALE 3X, 4 PL

SECTION BB-BB
SCALE 3X, 4 PL

SECTION CC-CC
SCALE 3X, 4 PL

SECTION DD-DD
SCALE 3X, 4 PL

SECTION EE-EE
SCALE 3X, 4 PL

SECTION FF-FF
SCALE 3X, 4 PL

SECTION GG-GG
SCALE 3X, 4 PL

SECTION HH-HH
SCALE 3X, 4 PL

SECTION II-II
SCALE 3X, 4 PL

SECTION JJ-JJ
SCALE 3X, 4 PL

SECTION KK-KK
SCALE 3X, 4 PL

SECTION LL-LL
SCALE 3X, 4 PL

SECTION MM-MM
SCALE 3X, 4 PL

SECTION NN-NN
SCALE 3X, 4 PL

SECTION OO-OO
SCALE 3X, 4 PL

SECTION PP-PP
SCALE 3X, 4 PL

SECTION QQ-QQ
SCALE 3X, 4 PL

SECTION RR-RR
SCALE 3X, 4 PL

SECTION SS-SS
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SECTION XX-XX
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SECTION YY-YY
SCALE 3X, 4 PL

SECTION ZZ-ZZ
SCALE 3X, 4 PL

